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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/343,092 06/30/99 SAMURA

H 50059-048

EXAMINER

MM91/0827

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DICKENS, C

ART UNIT

PAPER NUMBER

2855

DATE MAILED:

08/27/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/343,092

Applicant(s)

Examiner

DICKENS

Group Art Unit

2855

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE -3- MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 8/13/01
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1, 3-12 is/are pending in the application.
- Of the above claim(s) 3, 8-10 is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1, 4-7 & 11, 12 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 14
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8-13-01 has been entered.

2. Applicant's election with traverse of claims 1, 4-7, 11 and 12 is acknowledged. The traversal is on the ground(s) that the claimed method of manufacturing an ink jet printer does not relate to etching, drilling or punching. This is not found persuasive because the restriction was given due to the fact an ink jet printer is independent or distinct from a method of manufacturing an ink jet printer. The distinction is the printer can be made by another and materially different process such as drilling, etching or punching.

The requirement is still deemed proper and is therefore made FINAL.

3. This application contains claims 3 and 8-10 drawn to an invention nonelected with traverse. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 4-7, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada in view of Usui and JP 10-86365.

Shimada discloses the claimed invention essentially, including: ink nozzles 210, ink passages 204, ink chambers 203 and piezoelectric element 208.

However, Shimada does not disclose specific dimensions, i.e., fineness, for the ink passages, the ink chambers or the ink nozzles; plural laminated ceramic substrates; or a thin film of ferroelectric substance. Usui discloses ink passages 10 are fine as compared with ink chambers 4 and tapered ink nozzles 28 are fine as compared with the ink passages 10 and the lamination of plural ceramic substrates, i.e., silicon, (7, 8, 11) (col. 7, lines 63-67 - col. 8, lines 1-46) for the purpose of increasing the mechanical strength of the flow path forming member in an ink jet head. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have ink passages are fine as compared with ink chambers and tapered ink

nozzles are fine as compared with the ink passages and the lamination of plural ceramic substrates in Shimada as taught by Usui for the purpose of increasing the mechanical strength of the flow path forming member in an ink jet head.

JP 10-86365 discloses a piezoelectric element of ferroelectric substance (abstract) for the purpose of making handling easier and increasing the surface smoothness of ferroelectric substances. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a piezoelectric element of ferroelectric substance in the modified Shimada as taught by JP 10-86365 for the purpose of making handling easier and increasing the surface smoothness of ferroelectric substances.

6. Applicant's arguments filed 8/13/01 have been fully considered but they are not persuasive. Applicant argues Usui, Shimada nor JP 10-86365 do not teach nor suggest a silicon substrate on which a plurality of ink nozzles and a plurality of ink passages each communicating separately to each of the ink nozzles are processed finely using a plasma etching method. Usui and JP 10-86365 are not used to teach the above limitations and hence the argument for these two reference is not germane. Shimada does teach or suggest a glass, i.e., silicon, substrate 202 on which a plurality of ink nozzles and a plurality of ink passages each communicating separately to each of the ink

nozzles. Usui may not use the same method of manufacturing as that of the instant applicant, but nevertheless Usui does teach or suggest the claimed ink jet printer. Accordingly, Shimada as modified does teach or suggest the applicant's claimed invention. Thus, all of the arguments are not found to be persuasive.

7. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, THIS ACTION IS MADE FINAL even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

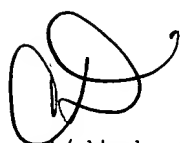
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the

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statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Dickens whose telephone number is (703) 305-7047. Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 308-0956. The fax numbers are (703) 305-3431 and (703) 305-3432.



cd/dickens
August 23, 2001



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